SVERIGES
LANTBRUKSUNIVERSITET

RISKS, TREES AND SECURITY

A baseline study of Beddedo, a peasant association in Wollo, Ethiopia

Eva Poluha
Development Studies Unit,
Department of Social Anthropology,
University of Stockholm

Swedish University of Agricultural Sciences
International Rural Development Centre

ISBN 0280-4301
ISBN 91-576-4259-1

Working Paper 111
Arbetsrapport 111
Rev. ed.
Uppsala 1990

Tryck: SLU/Repro, Uppsala 1990

16689
CLIC
SOPHEA

ARBETSRAPPORTER

IRDC (International Rural Development Centre) ger ut

- **Rural Development Studies,**
- **Issue Papers** och
- **Arbetsrapporter.**

I **arbetsrapport**serien behandlas många olika ämnesområden med anknytning till IRDCs aktiviteter. Den publiceras för begränsad cirkulation.

Seriens huvudsyften är:

- att erbjuda ett forum för diskussioner av pågående men ännu inte avslutad forskning, samt

- att dokumentera information från studier som är av intresse för en begränsad läsekrets.

Författaren är helt och hållet ansvarig för informationens riktighet. De åsikter som uttrycks är författarens och inte nödvändigtvis IRDCs.

WORKING PAPERS

The International Rural Development Centre (IRDC) publishes

- **Rural Development Studies,**
- **Issue Papers,** and
- **Working Papers.**

The **Working Papers** series is published for limited circulation, covering a wide variety of topics relevant to IRDC´s work.

The purpose of the Working Papers series is two-fold:

- to provide a forum for discussion of on-going but not yet finalized research, and

- to document information which is of interest to a limited audience.

The responsibility for the accuracy of the information presented rests entirely with the author. The views expressed are those of the author and not necessarily those of IRDC.

Swedish University of Agricultural Sciences
International Rural Development Centre
Box 7005
S-750 07 UPPSALA, Swe

SVERIGES
LANTBRUKSUNIVERSITET

RISKS, TREES AND SECURITY

A baseline study of Beddedo, a peasant association in Wollo, Ethiopia

Eva Poluha
Development Studies Unit,
Department of Social Anthropology,
University of Stockholm

Swedish University of Agricultural Sciences
International Rural Development Centre

ISBN 0280-4301
ISBN 91-576-4259-1

Working Paper 111
Arbetsrapport 111
Rev. ed.
Uppsala 1990

Tryck: SLU/Repro, Uppsala 1990

AGR-100

CONTENTS

FOREWORD i

ACKNOWLEDGEMENTS iii

ABBREVIATIONS iv

1. INTRODUCTION 2

1.1 The Upper Mille and Cheleka Catchments Disaster Preventation Programme (UMCC-DPP) 2
1.2 Organization of the Study 3

PART ONE

2. SUMMARY OF MAJOR FINDINGS AND CONCLUSIONS 5

2.1 General Information about Beddedo 5
2.2 Income and Livelihood 6
2.3 Health 7

3. RECOMMENDATIONS FOR FTP-UMCC/DPP COOPERATION IN BEDDEDO 8

4. METHODS 12

4.1 Comments on the Types and Reliability of the Data 12

PART TWO

5. SOCIAL AND ECONOMIC ORGANIZATION IN BEDDEDO 14

6. DEMOGRAPHIC DATA 14

7. ORGANIZING BEDDEDO 17

7.1 Official Organizations 17
Peasant Association
Peasant Woment Association
Peasant Youth Association
Service Cooperation
Producers Cooperative (PC)
7.2 Traditional organizations 19
7.3 Land Tax Administration - A Historical View 20

8. SOCIAL AND ECONOMIC ORGANIZATION OF THE BEDDEDO HOUSEHOLD 21

8.1 Establishing a Household 21
8.2 Land Use and Land Distribution 22
8.3 Economic Organization of the Household 25
8.4 Division of Labour in the Household 26
8.5 Agriculture and Horticulture 27
Seasonal Calendar for the Beddedo PA
Crops
Fertilizer
Storage
8.6 Domestic Animals 30
8.7 Handicrafts 32
8.8 A Household Budget 33
Observations on Expenditure Patterns
General Comments on the Household Budget

PART THREE

9. USING TREES AND TREE PRODUCTS 41

9.1 Fuel sources 41

10. TYPES OF TREE HOLDINGS 42

10.1 Peasant's experience with state forests 42
10.2 Peasant's experience with PA community forests 42

PART FOUR

11. STRATEGIES FOR SURVIVAL IN BEDDEDO: A SYNOPSIS 45

11.1 Peasant Strategies 45
11.2 Government Strategies 46
Producers' Cooperatives
Villagization
State forest and enclosures

APPENDICES

1. Data Collection 49
2. Tree species in Beddedo 50
3. Wild animals in Beddedo 51
4. Crop prices, March 1988 52
5. Holdings of Domestic Animals, 1985 53
6. The Beddedo Producers Cooperative 54
7. Questionnaire 55

BIBLIOGRAPHY 65

FOREWORD

SIDA finances a new programme on community forestry which is executed by FAO and SUAS. This programme - called Forests, Trees and People (FTP) - aims at identifying and developing effective ways of supporting people in their efforts to grow, manage and utilize trees and forests.

Though much is known about trees and the potential benefits that they provide for the rural poor, our knowledge of appropriate ways of planning and implementing community forestry is far from adequate. The lessons learned have been specific to the location involved. Far too little is known about how best to enable large numbers of people to manage their tree and forest resources in a long-term perspective. Forestry planners do not have the range of well-tested techniques and strategies that exist in other areas of rural development. FTP is designed specifically to provide this knowledge through a combination of in-depth studies and field activities.

FTP's field projects are concentrated to countries where the chances for success of participatory approaches to tree growing on a large scale are high. Of the eight projects now in existence, four are FAO Trust Fund projects (Zambia, Burkina Faso, Thailand and Nepal). The remaining four are coordinated by the Swedish University of Agricultural Sciences (SUAS). Two of these are executed by Swedish consultancy firms and funded by SIDA (Interforest in Vietnam and Swedforest in Tanzania) and the other two are run by Swedish non-governmental organizations (The VI Tree Planting Project in Kenya and the Red Cross in Ethiopia), SUAS is assisted by the Department of Social Anthropology, University of Stockholm in providing socio-economic expertise.

Together these projects form a basis for collection of field information and a network: information will flow freely between the projects and cooperation will be encouraged. The network is managed by two coordinating units - one in Sweden and one in the FAO - which are linked by a liaison committee. The coordinating units are responsible for the overall methodology development and applied research within the Programme. The six topics identified for study during the first phase are: Baseline studies, Participatory Monitoring and Evaluation, Forestry and Nutrition, Tenure, Local Management of Trees and Woodlands and Forest-Based Small Scale Enterprises.

All FTP projects had base-line studies or rapid rural appraisals carried out at an early stage, partly to plan future activities and partly to serve as case studies for methodological guidelines for new base-line surveys which are under development.

The present base-line study was carried out by Ms Eva Poluha for FTP and the ERCS in the Beddedo Peasant Association in Wollo, Ethiopia, in March 1988. The study highlights some institutional obscurities and problems regarding farmers'

possibilities to manage tree and forest resources for their own benefit. It also offers an analysis of the rather limited impact of forest products in a household budget for a typical family in Wollo today.

We want to thank the staff of the Ethiopian Red Cross Society and the Swedish Red Cross for their cooperation with the Forests, Trees and People Programme and for wanting to be involved in our collective efforts to improve the knowledge base for community forestry.

Solveig Freudenthal
University of Stockholm
Department of Social Anthropology
Development Study Unit

Folke Bohlin
Swedish University of
Agricultural Science
International Rural
Development Centre

ACKNOWLEDGEMENTS

During the time of the study the people in Beddedo were extremely busy building houses in their new villages and ploughing for the expected rains. In spite of their heavy work load, many of them took time to discuss topics relevant to this study with me and treated me with the great hospitality for which Ethiopia is renowned. For this privilege I wish to thank them.

I also want to thank the staff of the Ethiopian Red Cross Society and the Swedish Red Cross for their cooperation with the Forests Trees and People Programme. The support given by the ERCS while the study was conducted in all ways facilitated my work.

A special thanks to my assistant and driver Awole Behabtu. The work has also benefitted from the cooperation with my colleagues in the FTP programme as well as from discussions with Robert Chambers, Gordon Conway and Pierre Frühling.

I am deeply grateful to Pierre Frühling for giving me permission to use his photographs in the report.

The excellent and committed editing done by my friend and colleague, Judith Narrowe, has been invaluable. The analysis is, however, my own responsibility.

ABBREVIATIONS

AEPA	All Ethiopia Peasant Association
AMC	Agricultural Marketing Corporation
MoA	Ministry of Agriculture
MoH	Ministry of Health
PA	Peasant Association
PC	Producers Cooperative
PWA	Peasant Women Association
PYA	Peasant Youth Association
SC	Service Cooperative

1. INTRODUCTION

This is a socio-economic baseline study of Beddedo, a Peasant Association situated in the Tehuledere woreda of the Ambassel awraja in the region of Wollo in Ethiopia. It is one of several such studies being conducted under the auspices of the Forest, Trees and People programme. One aim of the study is to gather up-to-date, ethnographically sound data which can be used to develop and test methods to encourage and enlist maximal local participation in community forestry projects. Another aim is to provide information about the conditions of current reforestation and land rehabilitation projects in order to measure changes at a future date. This study will thus describe and to some degree analyze local conditions - both ways of thinking and ways of living - which do or can affect the relationship between people and trees in Beddedo.

1.1 The Upper Mille and Cheleka Catchements Disaster Prevention Programme (UMCC-DPP).

The site chosen for the study is located in Wollo, an area which has long been the focus of intensive rural development programmes. For the past fifty years, the Ethiopian Red Cross Society (ERCS) has provided extensive health and social service programmes as well as disaster relief programmes. More recently, following the disastrous famine of 1984 which resulted in mass evacuations of farmers from these areas to relief centres, the ERCS expanded its programme. With consistent support of the Swedish, West German and Japanese Red Cross, the ERCS in 1986 embarked upon a disaster prevention programme (DPP) in two of the most seriously affected catchments, namely the Upper Mille and Cheleka Catchments (UMCC).

One emphasis of the UMCC-DPP is to initiate and effectuate programmes aimed at restoring and stabilizing the environment. Furthermore, because it is a post-emergency project, the programme also aims at restoring the confidence of the people in their own capacity to farm and to safeguard their survival. The project is determined at the same time, to spread an awareness of the root causes of famine and in particular, to raise local awareness of the causal relationship between environmental degradation and famine (UMCC-DPP Vol. 111:5).

The UMCC-DPP extends to 56 PAs in the area. As an extensive rural development programme it focuses attention on the following areas: community water resources development; improved crop production; improved land use management including comprehensive reforestation; improved techniques for agricultural production and food storage; cash savings management and marketing; animal resources development; and training for farmers in these and other areas (See Köhlin 1987:7). The programme is executed by the Ministry of Agriculture (MoA) and the Ministry of Health (MoH) in their regional offices in Wollo.

What makes this project of particular interest for the FTP programme are the reforestation and land rehabilitation components. In a recently published report to the UMCC-DPP, entitled, significantly, 'Trees grow in Wollo' (1988), forestry consultant M. Bendz concludes that the UMCC-DPP reforestation projects have in general been successful: 'vegetation cover ... has increased, farm terraces have been constructed, ... springs are protected, fruit trees have been planted, forest nurseries are producing ...'(1988:2).

Bendz points out, however, that several problems remain: first, because land is scarce and the population continues to grow, ways must be found to combine long-term protective measures such as enclosures with shorter-term productive measures which can increase the farmers' daily sustenance. Secondly, greater clarity must be reached with regard to land disposal and tenure regulations. Finally, means must be found to strengthen involvement in the project from the 'bottom-up', and to increase local participation in reforestation and treeplanting projects (Bendz 1988: 3-4, 33-34).

1.2 Organization of the study

The present report intends to add socio-economic data to the technical and administrative data already collected. It focuses somewhat unusually on a single PA in the region. This choice of a research sample is due to several factors: at an early stage, the study intended to compare reforestation and other activities in two to four PAs both within and outside of the UMCC-DPP project area. Discussions with the project manager in Wollo revealed, however, that all PAs in the woreda had been involved in MoA activities, of which the UMCC-DPP is a part. Thus the assumption in the ToR that some PAs had not been exposed to outside intervention was not in fact substantiated. Moreover, it was found that all PAs in the project area consisted of more than 1000 households, and not 250-300, as is the case in other parts of Ethiopia. The PA which was selected, with its more than 1100 households was considered large enough for a baseline study since it contained the equivalent of three to four ordinary PAs within its boundaries. This decision was strengthened by the belief that a thorough study of one PA can provide in-depth knowledge which can positively complement more statistically oriented quantitative studies.

The point of view taken here is that people's attitudes towards trees and their opinions about the various measures which have been taken to restore the tree cover in the area, can only be understood if seen within the wider context of the socio-cultural and economic conditions of life in Beddedo. It is particularly important to point out that there is no land either in the middle ecological zone (woyna dega) or in the highland zone (dega) which does not fulfil a function in the survival strategy of the inhabitants. There is, in other words, no unused land in these zones. This means that when trees are planted or when certain areas are enclosed for natural revegetation, the amount of land available for the population's other needs will be proportionately reduced, at least in the short run. These changes will necessarily affect both the strategies and the economic survival capacity of the people of Beddedo. Any pro-

gramme which involves reforestation and/or extensive forestry projects must take this fact into consideration.

A broader and deeper understanding of some of the basic facts of life in Beddedo is the goal of this study. Part One includes a summary of the major findings, recommendations and a description of the methods used to collect the data. Part Two begins, with a description of the demography and institutional structure of the PA. This includes a lengthy description of the social organization and economic strategies in the area. I focus rather specifically on agricultural practices, fuel, crops, storage and livestock. The section concludes with a detailed presentation and discussion of an average household budget in which the relative importance of these sources of income becomes clear.

Part Three concentrates specifically on trees, tree products and types of tenure obtaining in Beddedo. It includes some comments based on peasants' experiences with the state and community forests. Part Four, entitled 'Strategies for survival in Beddedo: a synopsis', summarizes the main issues presented in this paper. Here two correlated developments are described: first peasants' strategies for survival, and second, the effect of national organizational policies on these strategies.

2. SUMMARY OF MAJOR FINDINGS AND CONCLUSIONS

The following is a summary of the main points in the report. Some of these were formulated as a result of the close collaboration between the anthropologist and the informants. In the course of long, open-ended discussions (see methodology), the informants identified some of their problems and suggested solutions. Other points in the summary are a result of the deliberations and analyses of the anthropologist.

2.1 General information about Beddedo

The PA is located in woyna dega, the middle ecological zone. It enjoys two cropping seasons due to frequent short rains; it has a water-filled valley, and the richest supply of fuel wood among the PAs in the UMCC-DPP.

Beddedo is a crowded PA. Its population - 1100 households and 5500 people - is more than 3 times that of an ordinary PA in other parts of Ethiopia. Its land resources are minimal and unevenly distributed: 0.4 hectare per PA household and 0.7 hectare per PC household.

Fifteen percent of the members of the PA - significantly more than the usual 4% elsewhere in the country - are also members of the PC. This is largely due to the fact that many peasants chose to join the PC during the famine of 1984-85.

Most PA members are Amhara Muslims.

2.2 Income and livelihood

The sources of income in Beddedo are agriculture, domestic animals, horticulture, and some handicrafts.

Agriculture is the main source of income. Yields are rather low, particularly when viewed in relation to the number of work hours deployed on the farms.

Land distribution per household is uneven. PC members have clear advantages; the PC has been given large continuous plots with the best soil and close to water. Non-PC members make do with poorer soil and non-contiguous plots.

The peasants have had positive experiences with the chemical fertilizers which the UMCC-DPP has provided and hope that this programme will be continued. It is unlikely that they will have the means to pay for these fertilizers if and when the project ceases to provide them. Some farmers complained about problems with weeds for which they would like herbicides.

While not generally included in MoA surveys, the home garden has traditionally fulfilled an important function. It has been a source of food or crops during the slack seasons when very little food is otherwise available. It has thereby been an important factor in the survival strategies of the farming family.

In the villagization plan for Wollo, it has been recommended that the size of the home garden be reduced. This will undoubtedly result in a concomitant reduction in foodstuffs and will increase the peasants' economic vulnerability. It must also be pointed out that the peasants no longer are able to care for their old home gardens. These are generally too far away from their homes and impossible to protect from wild animals.

Few farmers are aware of the extent to which ERCS has cooperated with MoA, nor are they aware of the extent that soil has been improved and land reclaimed in the area.

Domestic animals: In the economy of a Beddedo household, animal production provides more than 50% of the cash income. The small animals, particularly goats, are most important as they breed often and have large litters, and can be used both for their products and for exchange, Thus, goats bring a high return on invested capital. Due to the enclosures however, which have limited the areas used for grazing, many people have had to sell their goats. Again, the peasants' economic vulnerability is increased.

Handicrafts: Although handicrafts are a subsidiary source of income, it is nonetheless a significant one for some farmers. Sales and services of their products can provide up to 15% of a household's income.

Trees: While peasants generally understand the necessity and the importance of trees both as a means of soil and environmental protection and as a source of fuel and other products, they have generally had negative experiences with tree-planting projects. The programme for enclosures, for example, and other soil regeneration and forestry projects have resulted in the fact that grazing areas to which they previously have had access are no longer available to them. Trees planted in the community forest or the PA forest, a potential source of fuel-wood and construction poles, have been confiscated; even trees planted on individual plots have been confiscated by the PA on government orders. Peasants are thus most unsure about questions of rights of disposal and tenure: who owns/has the rights to the trees? To date, it seems that the only place where peasants want to plant trees - if at all - is in their home gardens which as a result of the villagization programme are very small. In general, the field interviews and questionnaire reveal that the UMCC-DPP's reforestation programmes are known and appreciated in the area. Due to the above complications, however, trees and tree-planting are still not highly prioritized by the people of Beddedo.

Diversification: A most significant issue, certainly one often referred to by the peasants, is the need for diversification of sources of income. People were very explicit about the fact that the present population cannot support itself on the limited amount of land available. They consider their present sources of income - agriculture and animal husbandry - insufficient, and seek advice and training which would enable them to diversify their economic strategies and expand their opportunities. Several peasants put it succinctly: 'the earth is not enough'.

2.3 Health

Some mention must be made of the peasants' frequent requests for information regarding birth control measures. These requests were made in conjunction with discussions of the need for economic diversification. Observations such as 'we are too many to subsist on this land' were accompanied by requests for knowledge of means to control pregnancies. These observations were made by both men and women: 'our women do not feel well with all these pregnancies'; 'we cannot take care of our children properly'.

Because the interview questions were not specifically directed to describing and analyzing health conditions in Beddedo, these comments and the discussions accompanying them are not included in the body of the report. Undoubtedly, however, both the fact of population increase and local attitude toward these increases play a more important role in the relationship between land, stock, labour, and in attitudes toward reforestation measures than is indicated here.

3. RECOMMENDATIONS FOR FTP-UMCC/DPP COOPERATION IN BEDDEDO

It is recommended that cooperation between FTP and the ERCS take place in the Beddedo PA, Tehuledere woreda, and that the organizations concentrate on the following projects:

1. A management system should be devised for the enclosures and state forests in the Beddedo area. This is a new project for which very little previous experience is available. The system should encourage maximum participation of representatives of the local population at all stages of the project - planning, implementation and evaluation.

One issue which deeply concerns the peasants is the lack of grazing land. They maintain that "we should be allowed to have some animals and be able in some way to make use of the enclosed land even if it is not in the same way as before".

During my discussions with them, the peasants suggested that different varieties of fodder might be sown in state forests, in the enclosures and on the bunds which are now bare. Their suggestions can form the basis of a community forestry plan or system in which the peasants are neither outnumbered nor their ideas overridden. The plan can be a result of the combined ideas of peasants, MoA experts, officials and FTP employees. One year after its inception, the same team can evaluate the plan, noting its strengths and rectifying its weaknesses.

2. It is recommended that the community forest be returned to the PA. This issue was discussed with the project manager before departure from Wollo and it was promised that actions would be taken to this effect. Clear information must be given with regard to tenure and disposal rights. This has great importance with regard to the PA's and individual farmers' willingness to invest in trees. This is an important issue which must be followed up.

3. In conjunction with the above recommendation, it is recommended that a small-scale "economy of trees" be started in Beddedo. This can be brought about by instituting a "tree cropping season" analogous to the current grain cropping season (see Bendz 1988:32). In the same way as land is now allocated to farmers for the period of time needed to grow crops, land could be allocated to the farmers, or the

PA, for the period of time needed to grow trees. In addition to improving the environment and eventually increasing the supply of fuel-wood and other utilities, such a system would 'make sense' within the cultural framework of the disaster-prone and thus security-minded farmers.

Such a project would necessitate that individual farmers would be assured of their legal right to harvest what they have planted. They would also have to be supplied with the technical know-how and the species that would make it worthwhile to cultivate plants, whether they are used for fuel, fodder or building materials. People must feel the same security with regard to their trees as they have today in relation to their crops or animals.

The team dealing with the management of enclosures could assist with this project.

4. It is recommended that a combined "trees for food and nutrition" study is undertaken. Such a study, carried out in collaboration with members of the PA, MoA experts, and FTP employees could result in suggestions about species that could be planted in home gardens, on bunds and in enclosures and forests.

5. It is further recommended that more attention be paid to the home garden and that intensive extension work including the distribution of seeds, perennials and advice be directed to the peasants to enable them to procure maximum yields from the limited space available. This might require additional specialized training for the home economics and the development agents in the area of small-garden horticulture and technology.

6. It is recommended that FTP support the people of Beddedo in their efforts at diversification. People were very explicit about the fact that the population is too numerous to allow all families to survive on the limited amount of land available. They suggested that instead of being resettled as farmers elsewhere they, should receive development assistance where they now live. People are prepared to learn a new trade and to expand the production of crafts in the PA. Most important to them is that they devise a variety of means to improve their economic situation. They see no future in agriculture alone but only from agriculture combined with other activities. It is thus recommended that an additional study be undertaken with the explicit objective of seeking opportunities to establish forest-based small scale enterprises in Beddedo. Since the FAO component of FTP has extensive experience in this area, it is suggested that the study be initiated by FAO.

7. While the UMCC-DPP project has led to impressive strides in the regeneration of nature in the area, most measures were undertaken with people's interest at heart but above their heads. To save and protect the environment hurried measures were required at the initiation of the project. However, now the time has come to share the initiative and responsibility for the activities with the people. However great the expertise and resources of project personnel, and however fervent their involvement

in their work, the sustainable improvement of nature will, as a whole, be determined by the concern and participation of the local people in the activities.

The following recommendations are meant to intensify the involvement of the local people in the processes of project identification, decision-making and project implementation:

a. consciously and conscientiously employ the social organizations which already exist in the PA - the PA PWA PC and PYA as well as the traditional social organizations such as the Idir and Ekub - as fora for generating new local input into the project. This requires presenting half-answered or unanswered questions to farmers and peasants and encouraging them to experiment with widely variant solutions.

b. In keeping with the above, redefine the role of the extension worker to include that of broker. Instead of representing any one system or agency as is typical of most extension workers, the broker views him or herself as a mediator who is receptive to the range of advantages in both systems, 'scientific' as well as local. Seen as brokerage, 'extension' becomes a two-way process; the farmers as well as the agency have a joint responsibility to contribute to the project. 'Extension' seen as brokerage no longer implies imparting information either from the 'top- down' nor from the 'bottom up'. In fact, the verticality of the popular 'top-bottom' metaphor gives way to a more 'horizontal' model characterized by dialogue, consensus and mutual learning.

c. utilize media as consciousness-raising devices. In addition to using visual media to teach or illustrate techniques, etc., still photography can be used easily and cheaply by local people to inform each other of current activities, and to discover flaws and successes in ongoing projects. The technique helps people objectify their environment and, properly structured, can lead to increased participation in and awareness of the evaluatory process.

   Because the UMCC-DPP is closely aligned with the MoA, few farmers are aware of the extent and structure of the UMCC-DPP project nor of the part the ERCS plays in the project. One specifically timely documentation then would be that of the UMCC-DPP itself. High school students from the several participating PAs could be recruited to document different aspects of the project, most particularly the reforestation and land reclamation components. The spin-off effect of such a youth-conducted documentation is often great; it generates an awareness of and concern with the issues at hand.

8. Information about the health status of Beddedo and Wollo is limited and little is known about what people do when they get sick. It is recommended therefore that a combined medical-anthropological survey be made of the population. Because

informants so often referred to the necessity of stabilizing the population growth, the survey may also include questions regarding family planning.

The community health worker (CHW) of the PA as well as the traditional birth attendant (TBA) should be part of the survey team. Such a study may provide the basis for a future training programme for CHWs and TBAs in defining the medical needs and wishes of the population. It may also become the basis for a health service system based on and adapted to the needs of the people.

4. METHODS

Two main methods for collecting data were employed. The first consisted of elongated, semi-structured interviews. These were held with project personnel and employees of the MoA, particularly at the DA and woreda levels and in Beddedo with members of the PA, PWA and PYA, executive committees and a number of peasants - men, women and children.

A second method consisted of a survey questionnaire (See Appendix 7) in Amharic which was administrated to a 5% random sample of the population. The questions dealt with the demographic composition of the PA, attitudes toward land tenure, methods of agricultural production including types of crops grown and size of area cultivated, types and use of domestic animals, wood and tree-related activities such as fuel consumption and tree-planting. The results of the survey are included in this text.

To conduct the survey, 8 students who had completed twelfth grade were examined in Amharic. I selected 4 of these, trained them to administer the questionnaire and sent them into the field. They conducted between 2 and 4 interviews per day, depending upon the distances between the households. Valuable discussions were held with them every morning about their experiences in the field. The information and explanations offered by the students during these debriefing sessions were often as illuminating as the results of the survey and provided valuable data. A summarizing discussion was held with them when they completed the survey.

4.1 Comments on the types and reliability of the data.

The information obtained from the different official offices (woreda, DA, PC, etc.) as well as from the survey is mainly quantitative. Some of these figures, like distribution by ecological zone, types of animals held and crops grown, as well as amount of labour input during the agricultural seasons, are usually not sensitive. These figures can therefore be considered accurate, provided the persons collecting such figures had reliable sources and asked the right questions.

Information concerning the peasants' economy is, however, very sensitive and cannot easily be relied upon as accurate. The sensitivity surrounding such information is related to many factors. In some instances, peasants fear that if they indicate that their agricultural yields are high, this might result in a tax increase. If, on the other hand, they indicate that their yields are low, this may be taken as proof that the soil is depleted and they must be resettled in some other part of the country. Reporting low yields however might also result in additional aid[1]. Similarly, because of the

[1]The peasants have been exposed to many different non-governmental organizations (NGOs) operating in Wollo. The NGOs often construct their

danger of soil erosion, admitting that one has too many animals can result in an order that a major part of the animals must be sold. If villagers perceive such a threat, they would probably consider it better to give a lower figure. All of these considerations make answering survey questions and analyzing survey results a very complicated matter.

In order to avoid too exaggerated figures and to try to achieve at least an approximative idea about the economic conditions under which people live, I have tried in the study to compare information from different sources, such as from the survey, the DA and the woreda MoA (see page 29). This has been done for the comparison of yields and animal holdings per household. I also tried to verify this information during informal discussions with both men and women. My own estimation is that the figures in the model budget, presented in the study, can be taken as points of departure when discussing the living standard of the people and the various effects that external inputs may have on their lives. These figures must, however, continuously be checked and refined.

Much important information was obtained during the informal discussions that I was privileged to have with many peasants. Although people were not always explicit about their feelings or attitudes, these discussions helped me understand some of the basic premises under which people live and their way of reasoning about them.

To make the collection of figures easier to grasp and interpret, I have presented them in the form of a model budget for one household. The model budget, or model household can be taken as an average household in Beddedo. The importance of the budget is not so much the display of the figures as the relative importance of the various sources of income and expenditure and the close inter-relatedness between a household's economy and the programmes and legislative decisions enacted by the government.

---

aid programmes on the basis of surveys conducted in the PAs. Well aware of this fact, the peasants often develop their own strategic answers to the survey question in the hope of receiving as much aid as possible.

PART TWO

5. SOCIAL AND ECONOMIC ORGANIZATION IN BEDDEDO

The Beddedo Peasant Association which is the focus of the present study, is situated in the Tehuledere woreda of the Ambassel awraja in the region of Wollo. Most of the PA is located in the middle ecological or woyna dega zone, and is thus typical of the area where a majority of not only the Wollo but of the entire Ethiopian population lives. With regard to religion and ethnicity, the people of Beddedo are also typical of the project area, being Muslims and Amharas.

The PA is considered relatively productive; people in Beddedo are held to be better off than in most other PAs in the same ecological zone. The higher level of productivity is attributed to the frequency of short rains which can result in two cropping seasons.

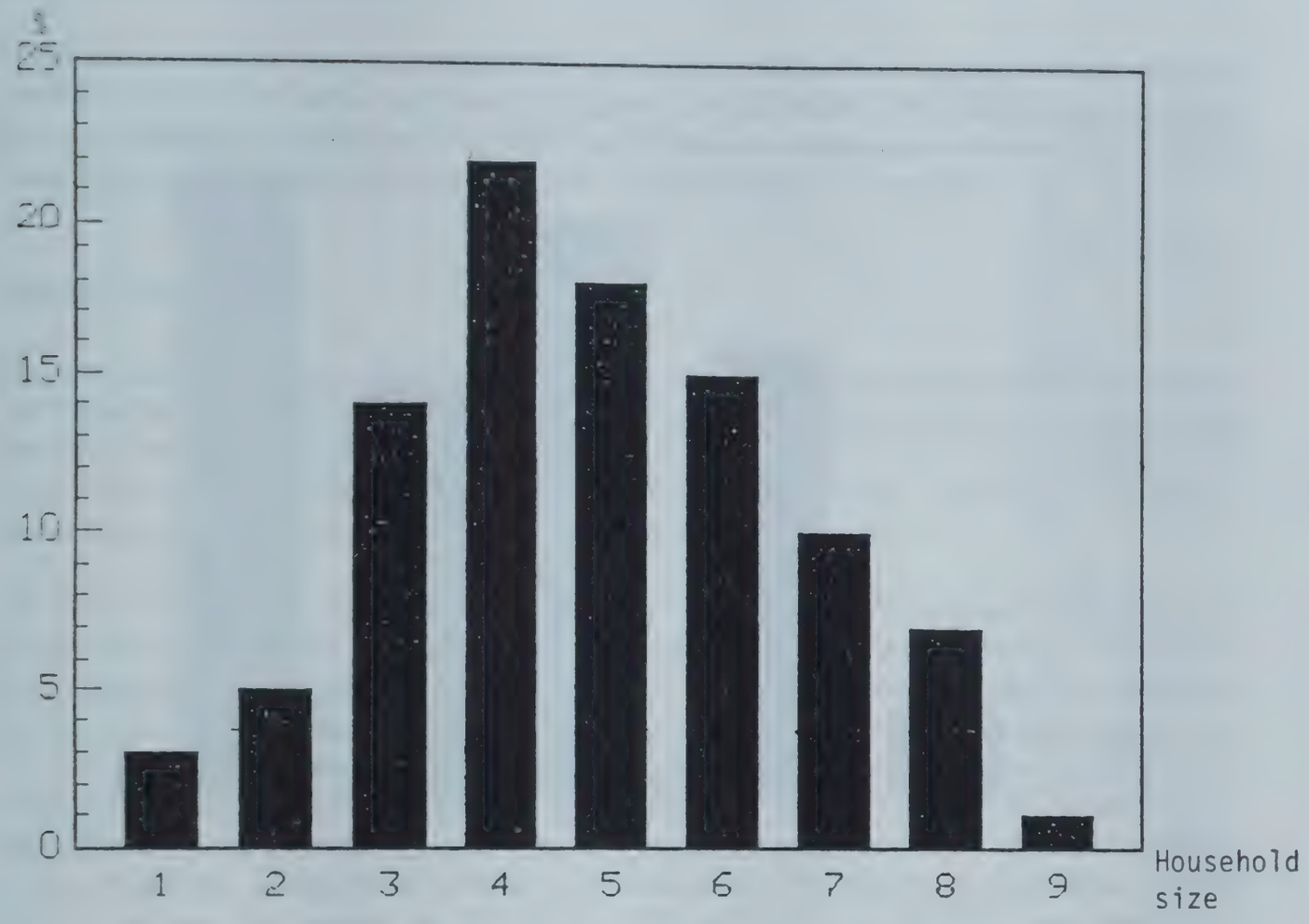
6. DEMOGRAPHIC DATA

The Beddedo Peasant Association is in the Wollo region on the road to Hayk from its capital, Dessie. Approximately one third of the PA is located to the east of the road and the rest is to the west of it. More than 90% of the PA area, including the site along the road, is situated within the so called woyna dega altitude. This altitude is thus named because of its fertility, which is so great that it even allows wine to grow. The climate is pleasant, moderately warm around 25 degrees Celsius. During the year, one short and one long rainy season are expected. Many households therefore calculate two harvests per year. In accordance with the national villagization programme, one village is being built in the woyna dega zone. The village, which stretches along the western side of the road is planned to accommodate 240 households.

To the west of the road, the Beddedo stretches beyond the mountain chain to the flat lands and valleys in the dega zone. In this area, village number two is being built for 200 households. In the first village, people will not face any great water problems since both springs and rivers are easily accessible. In the second village, however, the long dry season will increase the hardship for women, who have to walk for three hours every day to satisfy the family's water needs. Until now, people have been living in eight different hamlets (got). From these almost 40% of the population are now moving into the two villages.

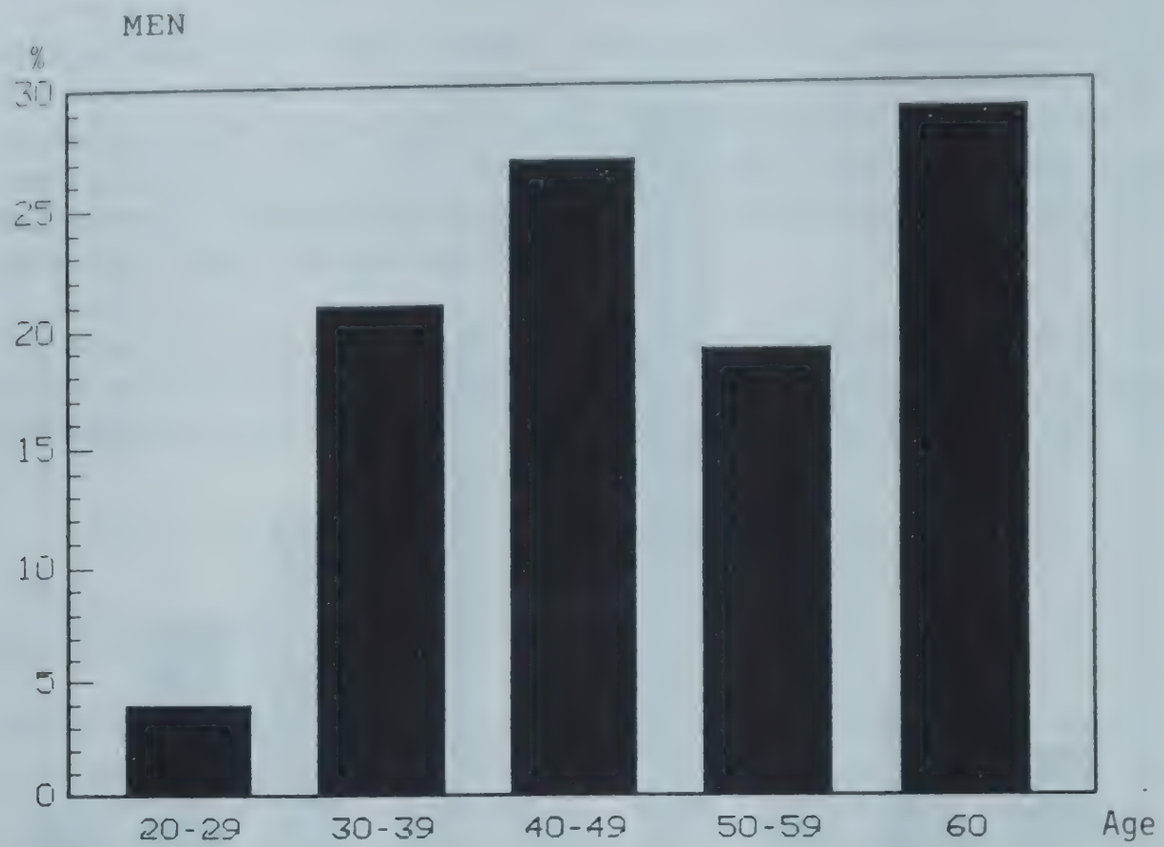
The Beddedo Peasant Association is composed of 1107 households with an approximate population of 5500 people. 960 of the households are headed by men and 147 (13%) by women. The average household size is five people; 70% of their households include 3-7 persons.

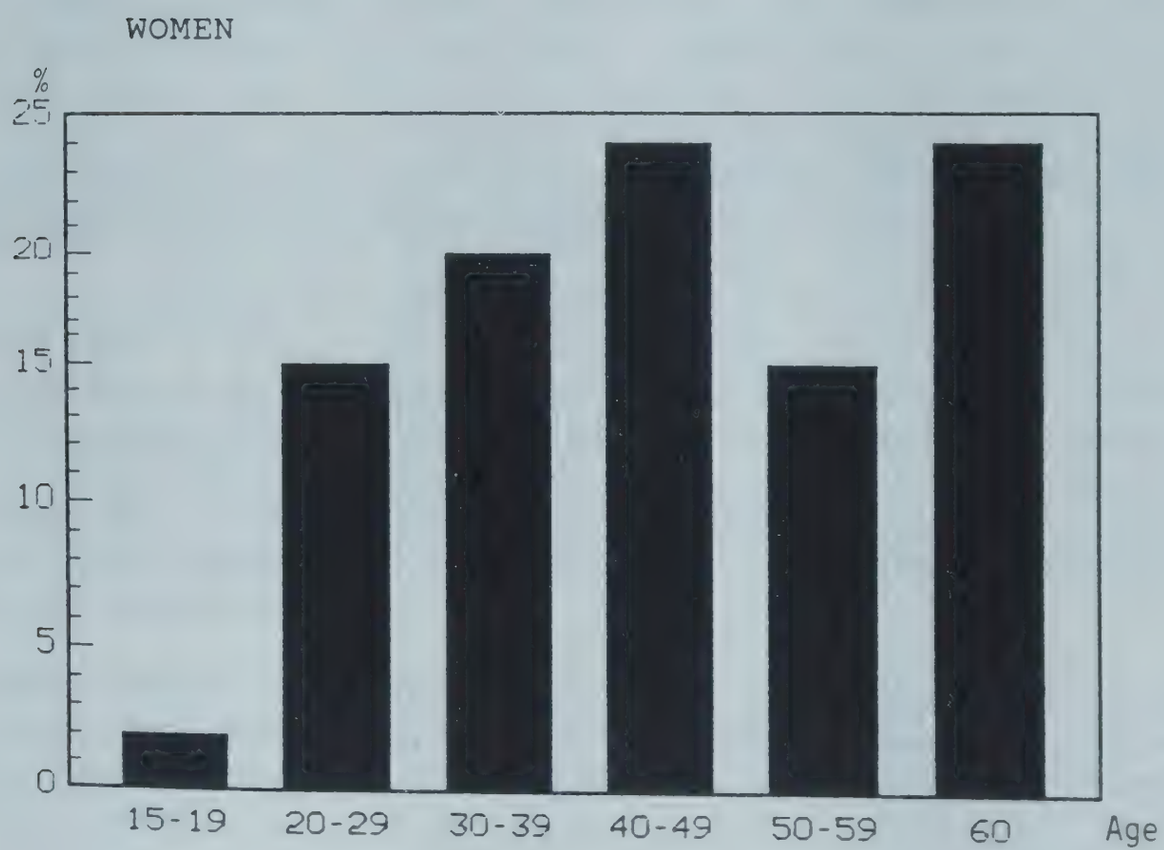
Figure 1. Percentage of population per household size



In the adult population 44% of the men and 36% of the women can read and write. Only a minority of the youngsters between 7 and 14 attend school. The reason for this may be that the PA only opened its own elementary school this year.

Figure 2. The age distribution of men and women respectively can be seen in the following diagrams.





7. ORGANIZING BEDDEDO

7.1 Official organizations

There are several official administrative institutions at the local level, as well as some unofficial ones of either a religious or cooperative character. The official organizations are the Peasant Association, the Peasant Women's Association, the Peasant Youth Association, the Service Cooperative and the Producers Cooperative.

Peasant Association

The Peasant Association (PA) is the smallest administrative and geographical unit in the Ethiopian countryside. All households living within the entity of approximately 800 hectares are members of it. Each household is represented in the PA by its head, who as a rule is a man. Only if the husband is dead or a wife has divorced without remarrying will a woman represent the household in the PA.

The PA was initially established to implement the land reform proclamation of the government. At present its duties are mainly of an administrative executive character. It is responsible for seeing to it that laws and proclamations coming from the government and its various ministries are carried out. The PA also collects taxes and forwards them to higher authorities; it is responsible for the peace and security of its area; and it organizes the resettling of people into villages. The PA is headed by an elected executive committee, whose most important members must also be members of the Producers Cooperative when, as in Beddedo, a PC has been established within the PA borders. The reason for this is that those who have joined a PC are considered more progressive, in a socialist sense, than those who have not, and are therefore thought to be more suitable to head the activities of the PA.

All PAs in Ethiopia are organized into a nation-wide association, the All Ethiopian Peasant Association. From each PA a member is elected to represent it at the next administrative level, namely the woreda PA and from the woreda members are elected to the awraja so that all peasants have a theoretical possibility of making their voices heard even at the national level. Each peasant pays a membership fee of 5 Birr per year to the Peasant Association.

Peasant Women's Association

The Peasant Women's Association (PWA) is made up of all the adult women living within the PA. The purpose of the PWA is to make women more conscious of the double burden under which they suffered before the revolution - namely feudalism and male oppression; and strengthen them in their endeavours to become independent human beings. The women generally meet once a month, but are at present assisting in the house-building necessary for resettling into villages, an activity with which

they and their husbands are occupied daily. The women are also organized up to the national level through the election of representatives to each higher administrative level. They pay a membership fee of 3 Birr per year. Membership is obligatory.

Peasant Youth Association

The Peasant Youth Association organizes all the youngsters within the PA between the age of 14 and 30. The purpose of the PYA is to make the youth, who are the ones that shall take over from the present governing generation, conscious of their spearheading role in the revolutionary changes that the country is going through. The membership fee is 3 Birr per year. Membership is obligatory and it is not possible to leave the association even when the maximum age is reached.

Service Cooperative

The local Service Cooperative is made up of four different Peasant Associations of which the Beddedo is one. Unlike the PA, PWA and PYA, the SC is a voluntary organization to which every household has the right of membership. There is a registration fee of 1 Birr and a membership fee of 9 Birr, half of which has to be paid when the application for membership is made, the rest can be paid during the second year. The purpose of the SC is to supply the members with necessary consumer goods close by and at a price which has not been inflated by merchants' interests. Goods such as salt, sugar, clothes, coffee and petrol for lamps are bought from the government retail organization. The demand for such items as sugar and coffee is usually higher than the supply, which makes it necessary for members to resort to the market when they have received their quota. Non-members are also allowed to buy items available at the shop so long as these are not in short supply. The prices they pay are however, higher. The SC also supplies its members with agricultural products such as fertilizer and improved seeds of wheat and maize.

In addition to functioning as a service organization for its members, the SC is also the basic level of operation for the Ministry of Agriculture (MoA). As often as possible, a Development Agent (DA) employed by the MoA is stationed at the SC. His duties are to act as an agricultural advisor for all the peasants in the SC. Since the Producers Cooperative is considered a more advanced form of production than that carried out by individual peasants, and since it is easier to use the PC as a model and means of demonstration, most agricultural activities of the MoA and thus of the DA are concentrated to the PCs.

Producers Cooperative (PC)

The Producers Cooperative is a voluntary organization of peasants who have decided that they want to hold their land jointly and cultivate it together. Oxen and agricultur-

al implements are also held in common. In Beddedo, approximately 15% of the households are members of the PC, while in the country as a whole, only about 4% are members (See also appendix 6). Members are divided into work groups and perform their various activities in accordance with guidelines issued by the PC executive committee and the team leaders. They in their turn follow an overall plan made by the MoA. A PC can be started by a minimum of 3 members. There can only be one PC in each Peasant Association. Applications are scrutinized by the MoA.

Once a PC has been allowed to form, the members can select the land within their PA which they want to cultivate. People living on and cultivating this land who do not want to join the PC are given replacement plots in other areas. These are usually of an inferior quality since PC members presented with the possibility to choose, will select the best land in the PA for their own activities. The general aim behind starting PCs is to improve agricultural production through a more rational use of scarce resources and thereby increase productivity. There are as yet no differences in agricultural techniques used by individual farmers and PC members. As the government sees the PC as an important stepping stone towards a future socialist society it gives much assistance, both financial and advisory, to the PCs.

7.2 Traditional organizations

A majority of the population in Beddedo as well as in the project area are Muslims. Within the PA there are 17 mosques and 1 church. In connection with villagization, people plan to combine several of the mosques and build a large one to serve the people in Village One. In Village Two their is already one large mosque close to the village.

Muslims belonging to the same mosque have an association called Tertib. The members of this association take turns inviting each other to coffee and snacks on Fridays. Membership is voluntary but most households participate. Households headed by very old or unmarried men or women are often invited but are not expected to reciprocate the invitations[2].

In every hamlet there is an organization called Idir. Membership is voluntary but most households belong to it. When someone has died members will assist the bereaved family with the funeral ceremony and burial expenses. In the same way, when someone from the hamlet is going to get married, the others will assist with money, food and work to cover the necessary expenses and see to it that everything is done properly.

---

[2]The Christians have an association of their own, called Mahaber. They meet on Sundays.

Many people used to belong to a savings organization, Equb, before the big famine in 1984. Since then, however, they have found their incomes too small and irregular to resume this activity.

Another traditional organization which, according to some informants, used to play a greater role in people's live in the past, is the work association for agricultural activities called Jigge. A person who needs a job on his farm done quickly will ask those whom he knows are reliable and hard working to join him in a Jigge. All types of work; like ploughing, harvesting, threshing and house-building, are performed by groups of men working in a Jigge. The participants are served food and drink. All work done in a Jigge has to be reciprocated in equal terms whenever this is solicited. If someone excuses himself from a rightful request, he will never again be asked to join a Jigge. Although people said that fewer Jigge activities are taking place at present, they still exist.

7.3 Land tax administration - a historical view.

Before the Ethiopian revolution in 1974, the people in Beddedo belonged to an administrative unit headed by a chika shum (tax-collector for the smallest administrative unit). According to oral information, the government appointed the chika shum, always a man, from one of the peasant households. The person appointed had, however, the support of the other taxpaying households. Once appointed, the chika shum's main duty was to collect taxes and deliver them to relevant government authorities. As a result of his appointment as a chika shum, this man no longer farmed the land himself. He could, however, order other peasants to cultivate his land and perform various duties for him. When a chika shum died, his position and duties were usually assumed by his son. If he had no son, a brother would succeed him. When no close kin were present, the peasant population would select a new candidate from their midst, and this man would later be appointed by the government. The chika Shum can thus be said to have been a person selected by the taxpaying population to act as their intermediary with the central government. According to the same oral information, taxes were 30 Birr per year at that time. Everybody paid the same amount, irrespective of the quality and quantity of the land held.

The taxpayers (gebbar) were peasants with hereditary usufructuary rights to the land they cultivated. These peasants had only to pay the taxes stipulated by the government. A majority of the people were not taxpayers, however, but tenants (chisenja). As tenants, they had to pay about 50% of their harvest to the landlord, which meant that in a majority of cases, they were much worse off than the taxpaying peasants. There was, however, no clear distinction between taxpaying peasants and tenants. Many peasants who had inherited rights to only small plots of land combined the cultivation of these plots with land that they rented from others. It was also a possibility for single women, widows or divorcees or old people to lease their land in tenancy. The same arrangement exists today when people who themselves cannot cultivate their land pay a share of the harvest from their land to the person who

farms it for them. Depending both upon the number of oxen and amount of seeds and fertilizer they themselves contribute, they pay from one third to half and sometimes more for work done.

The main change brought about by the revolution in the countryside is, in the eyes of many old peasants, the law that gives every adult person the same rights to land. This they did not have before. Administratively, however, not much has changed. Old people often half jokingly explain to members of the PA executive committee that in fact the latter are doing the same job as the Chika shum and his assistants were doing previously. They run around the countryside collecting taxes, telling people to participate in different communal undertakings like road building, tree growing and house moving. They also ask people to farm for those who are absent e.g. those at the war front. They even travel to the regional capital on different errands, the travel and per diem costs being met by the peasants. The only difference now, according to the old people, is that there is more administrative work. Otherwise nothing has changed.

8. SOCIAL AND ECONOMIC ORGANIZATION OF THE BEDDEDO HOUSEHOLD

8.1 Establishing a household

Most households in Beddedo are made up of a husband, wife and their children. Polygynous households do exist but are rare.

A new household is established through marriage, which takes place when a girl is around 12 years old and a boy 20. Before any commitment is made, eligible young girls are selected from those households that are not considered related or more than seven generations distant. This is the tradition even among Christian Amharas. When a girl from a suitable family has been found by the marriageable boy's parents, his mother checks if the girl has not been promised to anybody else. If she is found to be free, the boy's father will visit her parents with three elders and ask for the girl in marriage. At this stage it is almost impossible for the girl's family to refuse the offer.

For the betrothal (telosh), which is made according to the Muslim law, (nika), the bridegroom's family will give a sum of between 50 and 100 Birr to the wife's family. For the wedding they will also bring her new clothes in which she returns to his family. Unlike a Gojjame (Christian) Amhara girl, girls in Wollo get no cattle of their own upon marriage. Therefore they are not as economically independent as their neighbours.

Girls often give birth to their first children when they are 13 to 14 years old. They return to their parents' home to deliver in their familiar childhood environment. After delivery, the young mother stays in bed for 40 days, fed and cared for by her own

mother. A young, married couple will stay for some years with the husband's parents. After a child has been born, it is, however, time for the couple to build a house of their own. Their house is usually raised in the close neighbourhood of the husband's parents.

When growing up, boys and girls play in the fields together watching the sheep and goats. At the age of seven they start learning their gender-defined tasks. Girls stay close to the home and are taught to cook and take care of both animal and agricultural products. Boys get the responsibility for herding ever bigger animals. An increasing number of children are currently being sent to school, since many parents consider education and a salaried job the only promising (or, even possible) future for their children.

Religion is also important in the life of a child of seven. Whenever possible young children attend a Koran school and are requested to fast like adults. The mosque is usually visited and prayed in on Fridays. Children and women who are unable to go to the mosque will pray in their own homes.

Obedience to elders and hard work are two important values which parents try to instill in their children. As the peasants' main income comes from the land, boys and girls will early in life learn how to plan the cultivation of the soil and properly handle its products. A good son will later in life help his old parents farm their land and sell their products in the market.

8.2 Land use and land distribution

The greater part of Beddedo is, as already mentioned, situated in the woyna dega or most fertile zone. Compared with Tehuledere woreda as a whole, in which Beddedo is situated, it is obvious that the PA is ecologically better situated than many other PAs.

Table 1. Land Distribution in Percentage of Ecological Zone.

	Beddedo	Tehuledere woreda
Dega, Highland	7%	12%
Woyna Dega, Middle land	93%	60%
Kolla, Lowland		28%

Source: Ministry of Agriculture, woreda and DA offices.

The land distribution estimated by quality and use of land can be seen in the following table:

Table 2. Land Distribution in Beddedo and Tehuledere woreda according to use.

	Beddedo		Tehuledere	
	Tot.ha	% of Tot	Tot.ha	% of Tot.
Agricultural land	472	59%	17704	54%
Forest land[3]	248	31%	8786	27%
Grazing land	80	10%	3280	7%
Lakes	-	-	4000	12%
Total	800	100%	32870	100%

From the table above it is clear that the percentage of agricultural land in Beddedo is very small in relation to the 1107 households that have to share it. If distributed in equal shares, each household would get only 0.4 hectare, even though the Land Reform Proclamation allows a household as much as 10 hectares. Wollo however, is very densely populated and it is impossible to give each household a larger tract of land. This can be compared to the regions of Gojjam, Gonder and Shoa, where it is common that each household gets 2 hectares of land.

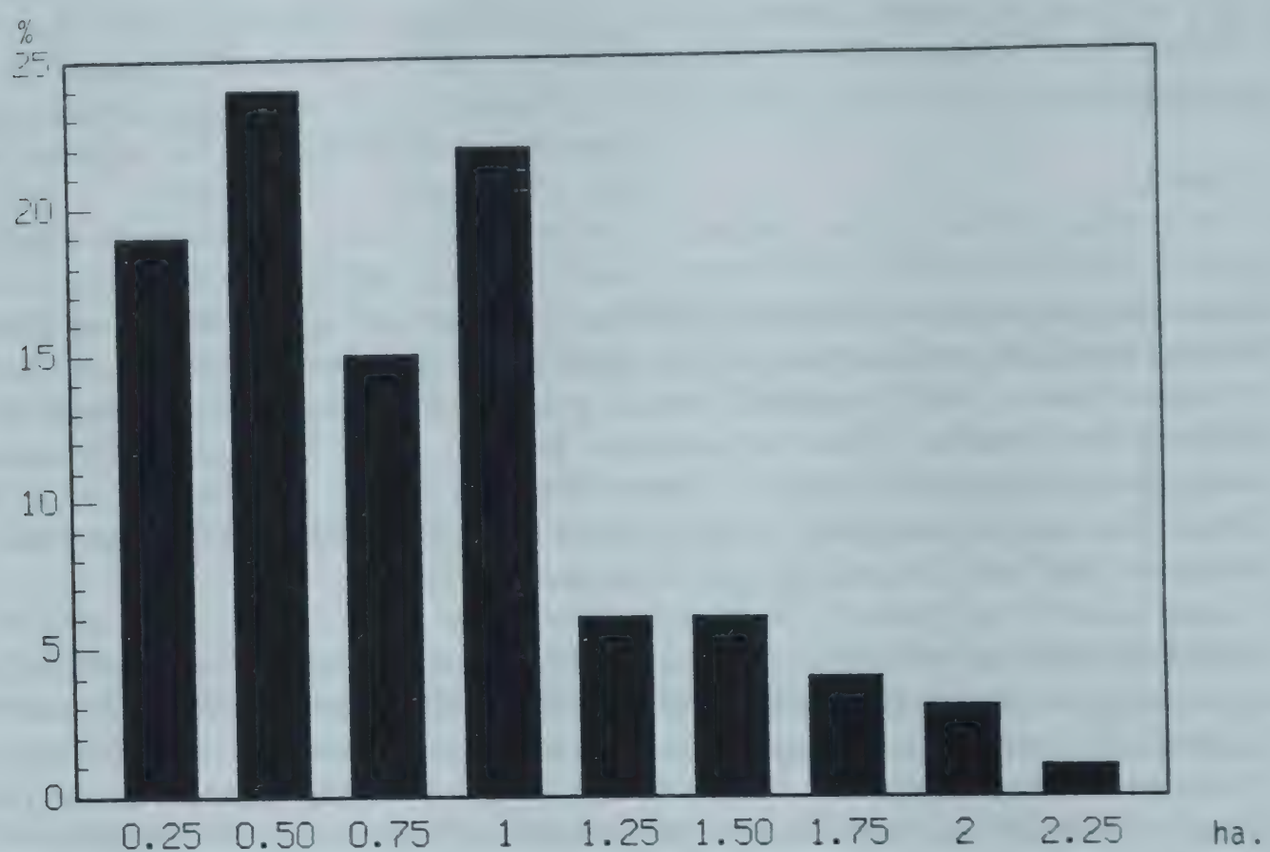
When the land reform was carried through, the basic principle for distribution was to give land in accordance with a household's size. Another objective was to let households keep the land they had cultivated before the revolution so that they would benefit from any improvements made. The land was usually given all in one piece and close to people's homes. The last general redistribution of land took place in 1980. Since then, those redistributions which have been made have either taken place within individual households or between Producers Cooperatives and individual farmers. When sons marry and set up an independent household close to their parents they will be given a piece of land from the household share to cultivate for their own nuclear families.

The Producer's Cooperative, which was started in 1979, rapidly increased in membership and acreage as a result of the famine in 1984-85. At present, a PC household has the right to cultivate 0.7 hectare while an individual household has access to 0.4

[3]Forest land is the area designated for forests but the trees have in many instances not yet been planted.

hectare of agricultural land, a condition which shows that the distribution of land is in fact uneven. In the survey it was found that the distribution between the households also was uneven. This was mostly due to differences in household size. The distribution of land among individual households in Beddedo is depicted in the following diagram in which agricultural and grazing land are combined in the respective land holdings.

Figure 3. Percentage of households with respect to size of land holding, in hectares:[4]



[4]These figures give a total of more than 950 ha, while the given acreage for Beddedo is 800 ha. The difference may be due to one of the following reasons: 1. the traditional measurement timad i.e. the area one pair of oxen can plough in one day cannot be given as approximately 0.25 ha, a possible explanation particularly since the landscape in Beddedo is very hilly. 2. People have overstated their holdings, a possible explanation, since they may have wanted to impress upon me that there was land in abundance. 3. The estimated area of 800 ha for Beddedo is wrong, something which can be easily verified through a cadastral survey. The main purpose of the diagram is to illustrate the existing great variations with access to land.

8.3 Economic organization of the household

The overall objectives of an individual's economic undertakings is to obtain maximum security for his or her own survival and the survival of his or her dependents. In order to guarantee this security (an accomplishment which is not easy when the rains on which everything else depends may be absent for years), people try to spread their risks as thinly as possible. This is visible not only in the agricultural and horticultural production of this area, but also in all other undertakings in which people willingly engage.

Although people in Beddedo have several means of making their living, the mainstay for all is agriculture. Whatever else people do - raising and keeping livestock, engaging in various handicrafts, pursuing trade - these activities are conducted in addition to farming, rather than independently of it.

8.4 Division of labour in the household

The main assets in farming are labour, land and oxen. The quality and availability of labour is related both to the individual's capacity to work and to the domestic cycle of the household. A household is relatively labour-weak both when a couple have many children still too young to work and when the man and wife themselves are too old to farm and their children have moved out and begun to lead lives of their own. A household is strong on the other hand, when a husband and wife are still in their prime and have nearly adult sons and daughters or daughters-in-law, all of whom are able to work.

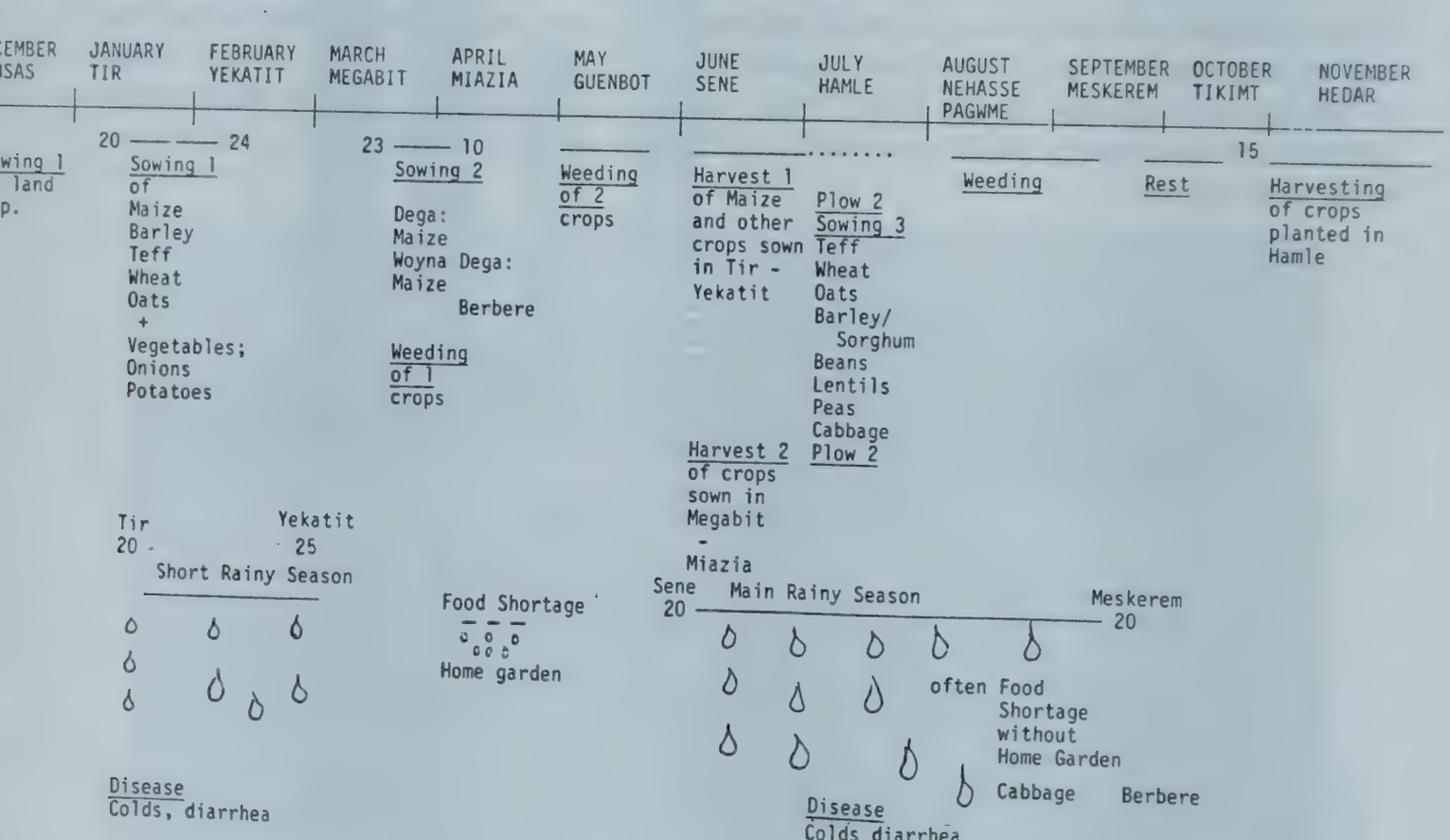
Many of the activities on the farm are gender defined. It is the work of the men to plough and sow. While men plough, their wives follow them in the furrows and break the clay clods to pieces while at the same time uprooting the grass. Weeding is done by men and women together. Teff needs most weeding, often up to three times, while it is found sufficient with two weedings for maize. When harvesting, men cut the stalks while women follow and pile them. Threshing is done at the harvesting area. The ground is often prepared with cow-dung to make it into a hard floor. A man then drives the oxen round and round on the outspread crops to sift the wheat from the chaff. When he is ready the grains are carried home and stored.

8.5 Agriculture and horticulture

Seasonal Calender for the Beddedo PA

The European months do not fully correspond to the Ethiopian calendar, but they can be taken as approximations.

igure 4.



It is important to notice on the calendar that there is only one short period in September to October when there is no agricultural work to be performed and which therefore can be considered a time of rest or an opportunity to pursue other activities. Furthermore, in spite of the two harvesting seasons, there are two periods during the year when there often is a shortage of food. One of these is in May and the other is from September to October. A third important feature in connection with the calendar is that during the rainy seasons -when the farm requires most work - people usually fall ill and/or are weak.

Crops

The main crops in Beddedo as well as in the Woreda as a whole are teff, maize, sorghum and pulses. The yield per crop in percentage of the total yield can be seen in the following table:

Table 3

Crop	Beddedo	Tehuledere
Teff	30%	47%
Maize	20%	15%
Sorghum	20%	20%
Legumes	11%	5%
Barley	6%	3%
Wheat	6%	4%
Stim. plants	5%	3%
Oil seeds/Hortic.	2%	2%

Source: Woreda MoA Office

It is important to note that horticultural production, unless on a large scale, is barely taken into account by the MoA figures.

The peasants cultivate six different crops on their land. It is not possible for everybody to sow all the crops indicated in the agricultural calendar. Variations in soil quality sometimes make it possible to farm one variety but no other. The following crops seem to be the most frequently cultivated in Beddedo: sorghum, teff, barley, wheat,

maize and beans. Depending on altitude and land quality, these crops may be supplemented by several others.

In the calculation made by MoA the products from the home garden are often forgotten. However, in the household economy, and particularly to help people over the "lean months", the home garden seems to fulfil a crucial role. Very often some of the crops planted in this garden are cultivated exclusively for home consumption while others are sold in the market. Vegetables like cabbage, carrots and potatoes often belong to the former category while chat (cata edulis) and coffee belong to the latter. Trees for fuel-wood, for fruits and for the fermentation of beer are often planted in the home garden both for home consumption and the market. Thus what cannot be eaten may be exchanged in the market for edible products particularly when the other crops are finished and little else is available.

In general, it appears as though only a very small percentage of the produce grown on the farm is sold in the market. Some peasants explained that the reason they don't market their crops is that they produce too little. What they have is not even enough for themselves. Although this was agreed on by some other peasants, these also added that they often prefer to consume what they themselves produce because it is of good quality and chosen according to the family's needs.

People eat the staple food, a pancake-like bread called injera, two to three times a day. This is eaten with a stew of onions and peas, lentils or beans. The drink is a local beer made of maize or sorghum.

The farmers' production strategies are based on the total food needs of their households. To cater for these with the available resources of labour, land and oxen is the main goal that they set themselves. Most agricultural techniques used are similar to those practised since ancient times and are based on rainfed agriculture. The land is cultivated with an iron-tipped plough pulled by two oxen. Other tools are also quite simple, but the Beddedo people are lucky in having a good number of skilful smiths in their area.

Some thirty to forty years ago it was common to let land stay fallow for a year before replanting it. The scarcity of land today has made this technique for soil recuperation impossible. Instead, the farmers follow a system of crop rotation on their fields. Where beans or maize have been planted in one year teff will be sown the next. On land cultivated with sorghum, barley will usually follow.

Fertilizer

While cow dung previously was the main fertilizer, there is less of it now, since it also constitutes one of the main sources of fuel. 78% of the peasant do, however, still put cow-dung on their fields as fertilizer, according to the survey. As many as 72% of the peasants make use of chemical fertilizer, which they get free of charge from the Red

Cross project. They are impressed by the results and say that their harvests have increased as much as three times. They use about 100 kg of fertilizer per hectare of land. Priority is given to teff and maize. Improved seeds are also distributed through the project and 79% of the peasants have used them. From the survey made in 1988 by the author it seems as if female heads of households have less access to improved seeds and chemical fertilizer than male heads. None of the peasants use pesticides on their farms.

Table 4

Crop yields in 1987-88 in quintals per hectare according to:

- sources of information; Development Agent, MoA woreda office; author's survey in 1988
- whether the crops were cultivated with or without fertilizer
- whether the cultivator was: an individual farmer; a Producers Cooperative; the MoA on its test field.

SOURCES OF INFORMATION

	Development Agent			Woreda Office			1988 Survey	Figures used for Household Budget (p.35)
	With Fertilizer			Without Fertilizer			With Fert.	
Crops	Ind. farmer	PC	MoA	Ind. farmer	PC	MoA	Ind. farmer	
Teff	-	18.6	19	17.2	14.6	15	8-10	15
Sorghum	-	20.3	-	19	13	-	14-15	13
Maize	43	36	-	37	25	-	13-14	25
Beans	-	-	-	25	14.6	-	10	15
Barley	-	-	17.6	16.7	14.4	13	18	15
Wheat	-	-	22	-	13.77	15	16	14
Peas	-	-	-	-	8.1	-	-	-

There are three types of stores in the house. The gota is made of mud and straw by the wife in the month of January. If not touched by water, the gota can last for several years. It takes almost five days to make one with a height of about 1.5 meters. In the gota seeds of teff, wheat and barely are stored. According to some peasants, there is no loss of grains in a well made gota.

The gotera is another kind of store. It is made by the husband out of bamboo. It is used to store beans, peas and maize. To limit losses due to rats, people try to keep cats, but rats are still abundant.

A third type of store house is made in the ground under the floor in the house. A hole is dug and the soil taken out. The walls are plastered with the mud and cow-dung. This store is used for sorghum. It prevents weevils from finishing the crop.

8.6 Domestic animals

Although agriculture is the mainstay of the population, animal husbandry is part and parcel of the farm activities. Oxen are necessary for ploughing, cows are needed both to reproduce oxen and to supply milk and butter either to the members of the household or for sale in the market.

Sheep and goats are mainly sold when cash is needed, but can also be slaughtered on festival occasions. The hides of all these animals are used as containers and/or mattresses. The dung is used as fertilizer, fuel or cement. Mules, donkeys and horses are necessary to transport heavy sacks of grain and other crops. Hens and eggs are both eaten and sold for cash.

As can be seen in the table on land distribution (Table 2, page 23), the designated grazing area in Beddedo and Tehuledere is, in general, very small. In Beddedo, it amounts to a total of only 80 hectares, or an average of 0.07 hectares per household. According to the Red Cross socio-economic study (vol. III:40) one hectare can only satisfy the needs of 6 animals (mainly cattle sheep and goats). Following this there would only be 480 animals in Beddedo. The MoA survey of 1985 shows, however, that there were about 12,000 animals or almost 26 times as many as can be supported by the carrying capacity of the land. Animals do not only graze on pasture land, however, but are also allowed to feed on crop residues after the harvest. Stall feeding is mainly practised by PC members for their oxen. As the enclosures are of such recent origin, the grass growing in them and in the so called state forests is being cut for the first time only this year. Since people at present are resettling into villages, the straw is used for thatching their houses and not for animal feed.

A list of animals according to a count made in 1985 in Beddedo can be found in the Appendix 5. The average household ownership according to these figures can be found in the table below. The validity of these figures is extremely difficult to assess. According to the survey made for this study, they are a bit too high. On the other hand, for this survey, many people tried to convey a picture of themselves as poor. According to the MoA Development Agent for the area, the animal holding of what was considered an "average" farmer was even higher than the figures already mentioned. It seems possible that the average lies somewhere between the survey of 1988 and the MoA count of 1985. In the following table the average animal ownership per household is depicted according to the different sources available.

In informal discussions held with the farmers, it became clear that their ownership of sheep, for example, was closer to 6 animals than to 2. As in the case of access to land, however, there are great variations in animal ownership. Thus while old and/or widowed people often have almost nothing save for maybe a hen, some households can have as many as 4 oxen, several cows and calves as well as some 15 sheep and goats. This variation has important implications for the sustainability of the households' economy.

AGR-100
(467) NNO

Table 5: Average animal ownership per household according to available sources

	Survey -88	MoA count -85	MoA DA oral -88
Ox	0.9	0.8	2
Cow	0.8	0.7	1
Calf	1.1	1.8	2
Goat	0.3	1	4
Sheep	2	6.4	6
Mule, horse, donkey	0.5	0.5	1
Hens	4	6	2

8.7 Handicrafts

In addition to agriculture and animal husbandry, handicrafts are also a source of income in Beddedo. There are some 20 smiths, 30 tanners, 40 potters and an equal number of weavers. All in all, at least 15% of the households are occupied in handicrafts. Most of them live in the woyna dega area. Pottery is done by women, while the other crafts are performed by men. All seem to practice their arts as a subsidiary occupation and mostly on the basis of fulfilling orders that people have placed with them. The potters and tanners also prepare their products beforehand and sell them in the market. The additional income a family gets from handicrafts varies between 1 and 2 Birr a week to a maximum of 40 Birr for a weaver.

A few households with a good number of mules and donkeys engage in small trade between market places. It seems as if most of these traders are found in the dega area. The nine forest guards, employed by Food For Work (FFW) to protect the forest from intruders, are also from the highlands. In the past many people were employed for several years planting trees for FFW. This became an important additional income to them. This year, however, no such activities have been undertaken in Beddedo.

8.8 A Household Budget

In order to illustrate the survival capacity as well as the vulnerability of a peasant household a model budget based on the information already presented is displayed on the following pages. Because the budget is intended to represent the economy of an average household, it lists only agriculture, horticulture and animal husbandry as sources of income. The effect that the absence of rains can have on agricultural production is depicted separately.

As discussed in the section on methods, it is very difficult to compose a truly accurate household budget. Peasants are for valid reasons afraid to state their income. For centuries they have been made to pay for an improved living standard of others in their society. The fact that a multitude of problems are connected with the compilation of household budgets should, however, not stop us from trying to compile them. Only an intimate understanding of how precarious the peasants' situation often is, coupled with knowledge about how peasants plan for their survival, can help us assist them better in their own endeavour. Without such knowledge it is difficult to realize how easily they can succumb to either climatological changes or to a variety of other external conditions.

Table 6

A HOUSEHOLD BUDGET FOR SIX PEOPLE

INCOME: per year - Total income: 1505 Birr [1]

1. CROPS Max 626 Birr at AMC [2] price

Type	Area Size in ha	Yield in [3] Quintals [4]	AMC [4] Price	Market Pri (March 198
Sorghum	0.25	3.25	81:25	170:60
Wheat	0.25	3.50	112:-	157:50
Maize	0.15	3.75	82:50	170:60
Beans	0.15	2.25	60:75	118:10
Teff (after Maize + Beans)	(0.30)	4.50	184:50	409:50
Barley (after Sorghum)	(0.25)	3.75	105:-	131:25
Total	0.80 ha	21	626:-	1157:55

With Short rains only:

Type	Yield	AMC Price	Market Price
Barley	3.75	105:-	131:25
Maize	3.75	82:50	170:60
Teff	2.25	92:25	204:75
Total	9.75 q	279:75	506:60

With Long rains only:

Type	Yield	AMC Price	Market Price
Sorghum	3.25	81:25	170:60
Teff	2.25	92:25	204:75
Beans	2.25	60:75	118:10
Wheat	3.50	112:-	157:50
Total	11.25	346:25	650:95

1) 1 Birr = about 0.5 US$.
2) For the prices see Appendix 4.
3) For the crop yields in quintal per ha see page 30
4) One quintal equals 100 kg.
5) The market prices are from the month of March, which means that they are still comparatively low.

2. HORTICULTURE Max 50 Birr at AMC price

A small garden with little production

10 trees for fuelwood at 2:50	25:-
Carrots	10:-
Cabbage	10:-
Gesho (leaves for making beer)	5:-

3. ANIMAL HUSBANDRY Max 829 Birr at AMC price

Animal type	Reproduction [1]	Market Price	Value, Assets/ Increase / Potential Income
Ox, 1		500:-	
Cow, 1	One calf a year Milk 0.5 l./day for 180 days 0.30 B/litre	450:-	200:- 27:-
Calf, 1		200:-	
Goat, 1	4 kids 2 times/ year	40	320:-
Sheep 2	1 lamb 2 times/ year = 4	55	220:-
Mule/Horse/ Donkey 0.5	1 donkey for half the popul.	800:-/150:-/80:-	40:-
Hens 4	Due to natural hazards 6 hens	3:-	18:-
	+ 32 eggs	1:- for 8 eggs	4:-
Total			829:-

1) Reproduction according to the DA:

Cow: A female calf starts breeding after 3.5 years. She is pregnant for 9 months and gives milk for 6-8 months. She can give birth up to 6 times. A male calf is mature enough to start plowing after 3 years.

Sheep/Goat: A female lamb can become pregnant after 6 month. She will give birth after an additional 5 months. Then after a month she can be pregnant again. Thus she can give birth 2 times a year for about 6 years.

Goats present a similar pattern. According to the peasants an important difference between the two is, however, that while sheep only give birth to 1 lamb at a time (exceptionally 2), goats often have 3-4 kids each time they give birth.

Observations on Income

- It is important to notice the great variation in prices between the AMC and the private market. So long as people consume what they produce these price variations do not play an important role. But as soon as the peasants are obliged to sell something (they must e.g. sell between 35 and 50 kg per household to the AMC) the price variation must be reckoned with. It has an impact both on the peasants' interest in producing more and on their attitudes towards selling what they produce in the market.

- If either the short or the long rains do not come, the sample household will suffer a food shortage.

- Even though the actual income from the sample home garden is very small the timing of the harvest is important as the crops will usually be ripe when other food items may be in short supply. Furthermore, trees are a cash resource which can be used at any time during the year, if the need arises.

- The value of the animals and particularly of what can be considered the "profits" obtained from goats is extremely high both with regard to the income as a whole and with regard to the labour input required. In this context one can say that the government policy, of paying low prices for crops which require a lot of work, easily fail due to lack of rain, locusts etc, in all respects pushes the peasants towards an increased animal production, particularly of goats. The latter yield a higher interest, do not require so much labour, and are not so disaster-prone, as crops.

- Another important value of sheep and goats is, as pointed out by Hultin (1986), that they can be exchanged for oxen, which are necessary to plough the land. With the general shortage of cows it is otherwise impossible for a household to build up a herd and get the oxen they require.

- Crop productivity is low when looked at in the perspective of yield per hectare. A noteworthy difference can be found between productivity on PC holdings as compared to individual holdings. PC productivity is much lower.

- The milk production per lactating cow is low, less than 1 litre per day.

Table 7

EXPENSES TOTAL: 1312:20 Birr

1. Reproduction of labour: 1274:70 Birr

a) Consump. of domestic produce 630:80 Birr

Item	Amount	AMC-Price	Market
Sorghum	1 quintal	25:-	52:50
Teff	1 quintal	41:-	91:-
Barley	3.50 "	98:-	122:50
Wheat	2.75 "	88:-	123:75
Maize	3.65 "	80:30	166:-
Beans	2 "	54:-	104:-
Goats	3	120:-	
Sheep	1	55:-	
Milk	50 litres	15:-	
Butter	= (40 litres of milk)	12:-	
Carrots		10:-	
Cabbage		10:-	
Gesho		5:-	
Trees for Fuel		17:50	

b) Consumprion of market products 304:20

Onions	25:-
Berebere	63:-
Coffea	182:-
Salt	3:-
Sugar	31:20

c) Other expenses		275:70
Mill, grinding		36:-
Medicines		15:-
Gaz-Petrol		24:70
Clothes: for children	4 x 12:50	50:00
for wife		50:-
for husband		100:-
d) Taxes and Other Payments:		64:-
Taxes (Land tax 10:- Income tax 10:-)		20:
PA, WA, YA (5 + 3 + 3)		11:-
School (registration fee etc.)		3:-
Extra contributions to government		20:-
Contributions to Idir		10:-
2. Investments for farm production:		37:50
Seeds: [1] Sorghum	10 kg	2:50
Teff	10 kg	4:10
Barley	25 kg	7:-
Wheat	25 kr	8:-
Maize	10 kg	2:20
Beans	10 kg	2:70
Farm tools		7:-
Salt		4:-
Grazing, Crop residues etc.		

1) Calculated on AMC prices. Seeds are, however, more expensive than ordinary grains.

Observations on expenditure patterns

- It is much easier to calculate income than expenditure, because the factors regulating income are more strictly limited. Expenses, however, often come when least expected. Someone may get sick and need treatment. A member of the family can die and then in addition to the bereavement felt, the household also loses crucial labour power: Futhermore, a household will be required to pay funeral expenses. The expenses mentioned here are therefore rudimentary; they are the result of discussions and short interviews rather than of continuous observation.

- An important and expensive item for peasants in other parts of Ethiopia is chemical fertilizer for which many pay more than 100 Birr. When the Red Cross project no longer subsidizes fertilizer, which now is given free of charge in Beddedo, this expense will be necessary for most peasants.

- Seeds are included in the expenses because only some peasants get free seeds and even they do not get free seeds for all their crops.

- It should be noted that the expenses generally only cover basic items which are absolutely necessary for the reproduction survival of the farm at subsistence level. There is no room for improvements. The food consumption calculation is based on figures from the Red Cross socio-economics study (UMCC-DPP vol.III:28) according to which food needs per person are 18.8 kg per month. Consequently, a 6-person household will need 1353.6 kg. In the budget, the crops have been somewhat overestimated at 1390 kg for 6 persons.

General Comments on the Household Budget

- The total income for this model household was: 1505 Birr; originating from

  1) crops: 626 Birr
  2) horticulture: 50 Birr
  3) animal husbandry: 829 Birr

- The total expenses for the household were 1312.20 Birr distributed on:

  1) reproduction of labour: 1210:70 Birr
  2) investments in farm production: 37:50 Birr
  3) taxes and other obligatory expenses: 64 Birr

- The small safety marginal of 192:80 Birr in this budget indicate the very precarious situation facing a Beddedo household. If either the short or the long rains do not come the household will immediately face starvation. If any of the other sources of livelihood fail or are in short supply, the margins for survival are very small. A Beddedo household can therefore be said to have a low level of sustainability.

- According to figures obtained from the Producers Cooperative files, a PC member earned between 340 and 445 Birr (see appendix 6) in 1985-86. This shows that their situation in no way is better but rather worse than that faced by an individual farmer. On the other hand, a PC member pays 5 Birr less in tax and does not have to invest anything from his own salary in farm production. The members of the PC still maintain private ownership over animals, except for oxen. No information is available regarding the actual size of their animal holdings, however, and whether these differ from those of private farmers.

PART THREE

9. USING TREES AND TREE PRODUCTS

During the lifetimes of the great-grandparents of the present adult population of Beddedo, the greater part of the area was covered with forest. Only small plots of land were said to have been cultivated. People say that even today, most of the traditional tree species still grow within the boundaries of the PA. The main difference is that their number is greatly reduced.

In appendix 2, there is a list of tree species mentioned by some informants as growing in Beddedo. The list is in Amharic and, wherever possible, Latin. The list includes various uses for wood and other tree products as well as the maturation period for the various species. We see that wood is used for fuel, building materials, food, animal fodder and medicines.

A local saying is that "eucalyptus is the only tree that needs planting since all other trees are sown by birds". Thus only eucalyptus trees are planted in Beddedo. While other species are replanted from one area to another, they are not sown by people.

It is important to point out that as a result of soil conservation activities carried out by MoA, people are now becoming accustomed to planting other trees as well. Half (58%) of the respondents in the survey had planted their own trees. Of these, 70% had obtained the seedlings from their own homestead nursery, while 20% had obtained them through purchase. The eucalyptus which people planted had provided them with fuel-wood, building materials and cash.

9.1. Fuel sources

A combination of wood and dried dung is used by 93% of the households as their main source of fuel. All of these households had access to trees in their own compounds or close by. The 7% of the households which had no access whatsoever to trees used only cow dung for cooking. In discussions with people from Beddedo, it was said that a household using both trees and cow-dung would need 5-6 tree poles per year to cover their needs for fuel. If they were to use wood only, they would need at least 12 tree poles with a diameter of 12 centimetres. This corresponds to a growth-period of 5-6 years.

10. TYPES OF TREE HOLDINGS

There are four types of tree holdings in Beddedo: 1. trees in state forests and enclosures; 2. trees held by the PA members in common, the so-called community forest; 3. trees held by members of the PC in common (as yet there is only land set aside for this in Beddedo); 4. trees belonging to individuals.

There is no uniform interpretation in Ethiopia of the laws, rules or legislation regarding these different types of tree holdings. Two of these - state forests and community forests -have been experienced negatively by Beddedo peasants and have subsequently negatively affected their attitudes toward tree planting.

10.1 Peasants' experience with state forests

In the PA, there are remains of a natural forest and tree plantation. After the revolution, at different points in time, these were made into state forests. In these state forests people are not permitted to cut any trees nor let their animals graze or cut grass for fodder. Some say that collecting dried wood is also forbidden and that if they are discovered doing this, they will be heavily fined.

While people are aware that the regeneration of the vegetation in the enclosures slows down the pace of run-off water and thereby prevents the soil in the hills below from being washed away, they point out that the measures have negatively affected their economy. They are not permitted to use the vegetation growing there, and both state forests and enclosures have reduced the available grazing land so much that many people have had to reduce their flocks of goats. They have tried to replace goats with sheep, but as was obvious in the model budget, sheep do not yield as high an interest as goats.

Moreover, even though the enclosures and state forests have brought back wildlife (an expressed objective of the national government), the types of animals breeding there are hyenas, monkeys and leopards, all animals which threaten the crops and domestic animals of the peasants. Larger clusters of trees also attract more birds, which eat the crops.

10.2 Peasants' experience with PA community forests

One of the definitive characteristics of PA community forests is that they are cared for and used by all members of the PA together.

In Beddedo the PA executive committee asked the woreda MoA to designate an area for community forestry. This was done and the members planted the area in a campaign, without being paid for their labour. A year after the trees were

planted, they were confiscated by the state and appended to an already existing fuel-wood plantation project near the Beddedo PA.

To this negative experience with trees was added the following story: In 1982, the Beddedo PA executive committee was told by members of the woreda MoA that, according to the law, all trees planted by individuals on their own land but outside their home garden, should be confiscated and made into the property of the whole PA. As a result, a lot of small tree plantations on farm fields were taken away from individuals and used for PA activities both to generate cash and as building material. In 1988 one of the men whose trees had been confiscated approached higher regional authorities and asked that his trees be returned to him since they had been planted on land given to him for his own cultivation. The regional authorities conceded to his request and wrote an order to the next lower authorities. Finally a letter arrived from the woreda MoA telling the Beddedo PA executive committee to return the trees they had confiscated and pay for whatever had been used. This resulted in the PA executive committee respectfully answering the letter stating that they had returned the remaining trees but had no money to compensate the man for the trees already used. Furthermore, since they had made use of the trees in a way which, they had been told, was legally correct, they did not see how they could compensate the man now, after what they saw as a change in the law.

Discussing this incident with a group of peasants, I tried to find out what they felt about the experience. I asked them whether in their opinion, it was good that whoever planted trees had the right to use them and if this was agreeable to their sense of justice. They acquiesced, saying that of course this was a good development. So I ventured to ask if they now intended to plant a lot of trees on their land. Then they laughed at me saying that they certainly would not. Since they could not be sure that the laws would not change again, it was too dangerous to plant trees anywhere but in their home gardens. The only other trees they expected to plant were those which had to be done in campaign form, because then they would be paid Food For Work for their labour.

With this background, the results from the survey become intelligible. Respondents were namely asked "Do you think you have <u>enough</u> trees in your area?"3. 64% answered yes, in spite of the fact that they constantly complained in informal discussions about the shortage of trees. Explaining their statements in the survey, they made their reasons explicit, stating either that their trees had been confiscated and therefore there was no use planting any, or that they planned to plant trees but only in their home garden. Even 55% of those who stated that they did <u>not</u> have enough trees in the area said that when they planted the needed trees it was going to be around their own house.

In response to questions concerning what trees they would like to plant in their gardens the peasants answered that they did not know. They were going to plant whatever species that the MoA ordered them to. When I insisted that they mention some species of their own preference, the peasants answered that they in fact

preferred eucalyptus trees because these were so fast growing. In three years they would be ready to harvest. As they needed both fuel-wood and building material, this would be their choice.

This example illustrates first that there is a general reluctance to take risks and a general preoccupation with security among the peasants. In all their activities the recurring theme seems to be how security can best be obtained. The negative attitudes expressed by people in Beddedo against forests, enclosures, community forests and tree planting in general can easily be understood if we realize that these activities in different ways threaten their immediate survival. In the short run, state forests, enclosures and even community forests have had negative effects on their economic interests, particularly their holdings of goats and their access to wood. Secondly their individual and communal initiatives at tree-planting - which can be seen as attempts to spread economic risks - did not pay off; the trees were confiscated.

Although these measures were taken with the interests of the peasants at heart, they focused not on present conditions but on future results. The peasants' interests and needs of today were in this sense neglected for those of the morrow. The peasants themselves understood this, but with their recent experiences of famine still vividly in mind, they did not primarily worry about tomorrow; indeed, they were not really convinced that they could take care of themselves today. Furthermore, since the peasants had not participated in these decisions, nor decided upon prioritizing the future instead of the present, they could not feel responsible for the plans and measures introduced by others.

PART FOUR

11. STRATEGIES FOR SURVIVAL IN BEDDEDO: A SYNOPSIS

11.1 Peasant strategies

Peasant strategies for economic survival in Beddedo are characterized by the incessant search for security. This search necessitates taking risks on the one hand, and minimizing the danger of possible losses, on the other. The search is conducted, as we have seen, with little or no margin for failure. Because the farmers have so little surplus to invest, all risks must be carefully evaluated; what seem like unsure risks must be avoided, and the risks must be spread among the various sectors of the economy in the hope that possible failures in one sector will be made up by successes in another.

This strategy of spreading risks can be seen in all economic activities in which Beddedo peasants engage. In agriculture, the time for sowing and planting the various crops is usually spread out so that if the fields sown first get too little rain or the crops are eaten by locusts, other crops will still have a chance to ripen. Domestic animals and vegetables grown in home gardens are varied and are raised both for cash and to insure the food supply when crops fail. They constitute an important source of security in times of trouble. Trade and handicrafts will, whenever possible, either supplement the main income or make up for losses incurred in other sectors.

Strategies designed to deal with or adapt to new circumstances can also be identified. When an increase in the local population made it impossible to let land lie fallow, peasants developed a system of crop rotation. When it became clear that certain crops produced minimum yields due to the poor soil, new varieties were planted. A recent example of this kind of adaptation - with less than positive results - is the partial replacement of goats by sheep necessitated by the enclosures.

These adaptations, however, must be seen within the larger framework of a steadily increasing population and no corresponding changes in the methods of production. This is unquestionably the weakness of the system.

In such a situation, the following familiar chain of developments can be identified: to satisfy the needs of an increased population, increasingly larger areas must be cultivated. This reduces forested areas and escalates erosion. To ensure a food supply and a possible source of cash, farmers keep ever larger herds even as both the quality and quantity of the grazing land has been reduced. The animals are fed on crop residues. This means that the nutrients from these residues are not returned to the soil. And since the animals do not get enough fodder, they become weaker, breed less often and are fertile for shorter periods of time.

The downward spiral continues: deterioration in the quality of the animals leads to an emphasis on quantity. Having denuded the forests for the sake of fields, manure and dung must be used for fuel and there is little left to enrich the soil. While farmers in general are aware of the fact that many aspects of the situation can be remedied by reforestation few trees are planted.

11.2 Government strategies

In order to come to grips with the dual problems of increased population and the resultant need for increased productivity, several national plans have been developed by the government. These plans and the legislation and organizations which they have created have had decisive effects on peasants' livelihood. In the following section, a brief overview will be made of the effects of the PC, the Villagization programme and the Enclosures and State Forests on peasants' livelihood.

Producers' Cooperatives

The main purpose of the establishment of the PCs is to promote increased productivity and equality in the country. The PC is based on the idea that a reorganization of, in this case, agricultural production will lead to a more rational use of scarce resources. In other words, through the collective use of the main resources available - namely, land, labour and oxen - a higher level of efficiency can be reached.

One practical advantage which the PC has experienced is that it is easier to test new agricultural methods and varieties of seed and livestock. Any negative results are less devastating for the group than they might be for an individual farmer. The PC also increases poor people's chances of survival due to the assistance that the PC gets from the government. Finally, it has been shown that single women who do not want to remarry have a greater chance of survival if they are members of a PC.

A problem hitherto witnessed with the PC is that the work input per member is less than that of an individual farmer. This can be seen in the generally lower productivity rates and lower yields on PC fields as compared to those of individual farmers'.

Villagization

The villagization plan is another attempt to come to grips with the generally low level of productivity. The purpose of villagization is to improve the living standard of the people, and to stimulate their inventiveness and interests through supplying them with all the necessary amenities like a school, water and electricity in the immediate vicinity. Another purpose is to move the peasant population from the hills to the lowlands and thereby halt the process of erosion.

One problem accompanying villagization is that the 500 square meters designated for each household leaves very little room for a home garden. As was seen in the section on the agricultural cycle, the home garden, though economically not yielding much cash, fulfils a very important function: during the slack agricultural months, garden products may be the only means of survival. Decreasing the size of the garden will make people more disaster-prone than they were previously.

Secondly, the rule that only two villages may be established on 800 hectares will in certain instances make the distance between living area and farm so great (more than 5 km was a figure mentioned) that both farmers and oxen will be tired before reaching the farm. The inhabitants of Village 2 in Beddedo will for example have to walk three hours to fetch water.

Lastly, according to the villagization plan, the kitchen must be placed in a separate building behind the house. This means that space will be taken from the potential home garden for a building whose utility is questionable for the following reasons: when cooking, women perform many other activities in the house simultaneously. This will be difficult to do when the kitchen is separate from the dwelling. The fire gives warmth and light to members of the household for which no replacement has been provided. Furthermore, in Ethiopia, the cooking place or kitchen is the centre of all social activity. As such it fulfils an important social function. Problems with the effects of smoke from cooking can be alleviated. When the domestic animals are removed to another house at the back it will be easier to keep the house clean. Thus there is no ground for removing the kitchen from the house.

State forests and enclosures

The Enclosures are a means of soil conservation by which steep-lying areas are closed off to human beings and the grazing of domestic animals in order to allow a natural revegetation to take place. This drastic measure has been found necessary because nature has been so badly mistreated. Two comments must be made with regard to enclosures: first, they have without doubt increased people's vulnerability to sudden misfortune. As exemplified in the household budget, goats alone made up 21%, or more than one fifth of the family's yearly income. Due to the enclosures, it is almost impossible to keep goats. Most goats have therefore been replaced with sheep. The shortage of grazing land however has also made it difficult to keep sheep. In the short run, therefore it can be said that the people's self-sustainability has been weakened. Secondly, while farmers are aware of the advantages of enclosures, the decision to make enclosures has not been made by the local people themselves. As a result they do not feel responsible for the future of the enclosures.

The purpose of both the nationalization of forest reserves and the promotion of community forestry is to stop deforestation, limit soil erosion and increase the production of wood and timber. In a desperate situation where closed forest only covers 2% of the country's area, it has been considered necessary to introduce and enforce these measures. Problems arise, however, when people feel less than involved in the measures taken and when they see neither present nor future benefits from them (see Chambers 1987, Bendz 1988). In the present study, people's experiences with both state forests, enclosures, and community forest have been related in detail so as to facilitate an understanding of their negative reactions to anything connected with tree-planting outside their own home gardens. These experiences and the general context in which they have been made are the basis of the recommendations which are presented in part one of this study.

A first draft of the report will be presented before June 1, 1988 at a seminar discussing the methodology and findings of the study.

A final version of the report will be presented in September 1988.

The ERCS would appreciate if the written report in combination with a videofilm illustrating the main issues it discusses, may be presented and analyzed with project personal and peasants at a seminar in the autumn of 1988.